

## CLAIMS

1. A radio communication system comprising a primary station and  
5 a plurality of secondary stations, the system having a communication channel  
between the primary station and a secondary station, one of the primary and  
secondary stations (the transmitting station) having means for transmitting  
power control commands to the other station (the receiving station) to instruct  
10 it to adjust its output transmission power in steps, wherein the receiving station  
has combining means for processing a plurality of power control commands to  
determine whether to adjust its output power.

2. A primary station for use in a radio communication system having  
a communication channel between the primary station and a secondary  
15 station, the primary station having means for adjusting its output transmission  
power in steps in response to power control commands transmitted by the  
secondary station, wherein combining means are provided for processing a  
plurality of power control commands to determine whether to adjust its output  
power.

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3. A secondary station for use in a radio communication system  
having a communication channel between the secondary station and a primary  
station, the secondary station having means for adjusting its transmission  
power in steps in response to power control commands transmitted by the  
25 primary station, wherein combining means are provided for processing a  
plurality of power control commands to determine whether to adjust its output  
power.

4. A secondary station as claimed in claim 3, characterised in that  
30 means are provided for selecting one of a plurality of available power control  
step sizes in response to commands issued by the primary station, and in that

the combining means are operative if the required step size is less than its minimum available step size.

5        5.        A secondary station as claimed in claim 4, characterised in that means are provided for processing a group of power control commands together, the size of the group being determined by the minimum available step size and the required step size.

10       6.        A secondary station as claimed in claim 5, characterised in that the size of the group is equal to the ratio between the minimum available step size and the required step size.

15       7.        A secondary station as claimed in claim 3, characterised in that the combining means are operative in response to commands issued by the primary station to process a group of power control commands together and in that the size of the group is predetermined.

20       8.        A secondary station as claimed in claim 7, characterised in that the power control step size is predetermined.

25       9.        A method of operating a radio communication system comprising a primary station and a plurality of secondary stations, the system having a communication channel between the primary station and a secondary station, the method comprising one of the primary and secondary stations (the transmitting station) transmitting power control commands to the other station (the receiving station) to instruct it to adjust its power in steps, wherein the receiving station processes a plurality of power control commands to determine whether to adjust its output transmission power.

30       10.       A method as claimed in claim 9, characterised by the transmitting station instructing the receiving station to use a particular power control step

size, and by the receiving station combining power control commands if the required step size is less than the minimum available step size.

11. A method as claimed in claim 10, characterised by the receiving  
5 station processing a group of power control commands together, and determining the size of the group depending on the minimum available step size and the required step size.

12. A method as claimed in claim 11, characterised by the size of the  
10 group being equal to the ratio between the minimum available step size and the required step size.

13. A method as claimed in claim 9, characterised by the receiving  
station processing a group of power control commands together in response to  
15 commands issued by the transmitting station and by the size of the group being predetermined.

14. A method as claimed in claim 13, characterised by the power  
control step size being predetermined.

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15. A method as claimed in any one of claims 9 to 14 characterised  
by transmissions on the channel taking place in frames and by the groups of  
power control commands having predetermined positions with respect to the  
start of each frame.

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16. A method as claimed in claim 15, characterised by the size of the  
group being exactly divisible into the number of power control commands  
transmitted in a frame.